

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number  
**WO 2004/006963 A1**

(51) International Patent Classification<sup>7</sup>: **A61K 49/00**,  
C07K 14/47, C07D 421/02, 417/02, 413/02, 403/02

(21) International Application Number:  
PCT/US2003/021478

(22) International Filing Date: 10 July 2003 (10.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/395582 12 July 2002 (12.07.2002) US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CONJUGATED INFRARED FLUORESCENT SUBSTANCES FOR DETECTION OF CELL DEATH

(57) Abstract: One aspect of the invention is an infrared fluorescent reagent that may be useful to provide images of regions of cell death. The reagent may comprise a fluorescent substance, preferably an infrared fluorescent substance, conjugated to a targeting moiety that selectively localizes or binds to cells or tissue undergoing cell death, such as annexin V. The reagent may also comprise an infrared fluorescent substance associated with an antibody, antibody fragment, or ligand that accumulates within a region of diagnostic significance, such as a region characterized by necrosis or apoptosis. In one embodiment, the reagent comprises annexin V covalently conjugated to IRDye78. In another embodiment, the reagent comprises annexin V covalently conjugated to a quantum dot. More broadly, the reagents described herein may be used in detecting cell death.

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